

Amendments to the Claims: This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Cancelled)
2. (Cancelled)
3. (Cancelled)
4. (Cancelled)
5. (Cancelled)
6. (Cancelled)
7. (Cancelled)
8. (Cancelled)
10. (Cancelled)
11. (Cancelled)
12. (Cancelled)
13. (Cancelled)
14. (Currently Amended) A method for fabricating a semiconductor laser device comprising steps of:
 - forming a plurality of grooves in a surface of one conductive type of an InP layer;
 - thermally treating the InP layer in an atmosphere including at least a gas containing phosphorus and a gas containing arsenic in a mixed state, thereby forming a plurality of active regions made of InAsP in the plurality of grooves; and
 - forming an other conductive type of a semiconductor layer after forming the active regions.
15. (Original) A method for fabricating a semiconductor laser device according to claim 14, wherein each of the grooves is formed in a triangle shape such that a bottom of the triangle is on a surface of the InP layer.
16. (Original) A method for fabricating a semiconductor laser device according to claim 14, wherein the InP layer is an uppermost layer of a multi-layered structure.
17. (Original) A method for fabricating a semiconductor laser device according to claim 16, further comprising a step of forming a light confinement layer adjacent to the InP

layer, wherein the light confinement layer made of a semiconductor having a bandgap energy between the bandgap energy of a semiconductor constituting the active regions between the InP substrate and the InP layer and the bandgap energy of InP.

18. (Original) A method for fabricating a semiconductor laser device according to claim 14, wherein the step of thermally treating the InP layer includes a step of intermittently providing a gas containing arsenic, thereby forming a plurality of active regions each having a well layer made of InAsP in the plurality of grooves.

19. (Original) A method for fabricating a semiconductor laser device according to claim 16, wherein the step of thermally treating the InP layer includes a step of intermittently providing a gas containing arsenic, thereby forming a plurality of active regions each having a well layer made of InAsP in the plurality of grooves.

20. (Original) A method for fabricating a semiconductor laser device according to claim 19, comprising a step of forming a light confinement layer adjacent to the InP layer, wherein the light confinement layer made of a semiconductor having a bandgap energy between the bandgap energy of a semiconductor constituting the active regions between the InP substrate and the InP layer and the bandgap energy of InP.

21. (Original) A method for fabricating a semiconductor laser device according to claim 17, wherein the light confinement layer is made of InGaAsP.

22. (Original) A method for fabricating a semiconductor laser device according to claim 19, wherein the light confinement layer is made of InGaAsP.

23. (Currently Amended) A method for fabricating a semiconductor laser device according to claim ~~13~~14, wherein the plurality of grooves have a periodic pattern in a direction parallel to a resonator length direction. |